



Climate control of varve thickness in Chilean lacustrine sediments during the deglaciation

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Lacustrine sediments from Lago Puyehue from Chilean Lake district have already been recognised to register ENSO-like periodicities. Another core recovered from the same lake covers the time span from between ~17.1 to 10.8 cal kyr BP (3.5m core). The climate shifts are analysed along this core by continuous varve-thickness measurements. The varve chronology is constructed by conventional varve-counting methods on thin sections after correction for instantaneous volcanic and seismic events. The calibrated varve-age model derived from manual varve counting is constrained by high-resolution grey-scale (semi-automatic counts of the annual light diatom-rich layers). The annual character of the sediment is further constrained by a significant connection with the ^{14}C chronology. A wavelet analysis was performed on the varve thickness record. It shows that the variability in the 2-6 yr band is the strongest in the time interval 11.4 - 12.4 kyr BP. The variability is also strong in the oldest part of the record (16.1 - 16.3 kyr BP). On the other hand the variability in this band is very low between 14.9 and 14.4 kyr BP, as well as in the most recent part of the record (11.0 to 11.4 kyr BP).